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ADDRESS
ON
OPHTHALMOLOGY.

BY
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PHILADELPHIA.

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Although the title of our address as announced would lead ophthalmologists to expect a specifically special paper on the subject, we have deemed it more fitting to bear in mind, and will attempt to answer, the queries so often put by visiting colleagues: "Well Doctor, what is new on the eye?" With this idea in view, therefore, we present a *mélange* which at least will be practical, and we hope instructive, as we quote from experience, and have made particular reference to the eyes of children.

"As a warning to slovenly parents, Baudry (Arch. d'Ophth., 1885, vol. v, p. 55), notes the *transmission of syphilis* to two children by adults, who tried to remove with saliva the crusts along the margin of the lids, due to blepharo-conjunctivitis. In both cases the chancre was situated near the inner canthus, once above and once below."

Red eyelids, so called "weak eyes" with or without crusts, and loss of lashes, barometer-like, indicate faulty vision, or an error of refraction. Marginal eczema, as this form of inflammation of the lids is called, can be temporarily cured by local applications, but will be apt to return, because, as we have said, an error in refraction is generally the remote cause, and glasses must be fitted to remove the eye strain.

As a local application nothing is better than what is known as the "yellow salve," the composition of which we will give at once:

Muriate of morphia	1 grain.
Yellow oxide of mercury	2 grains.
Vaseline	3 drachms.

S.—Mix thoroughly and dispense in a collapsible tube.

Unless this salve be properly applied, it is apt to be found too stimulating, and will aggravate the trouble it is intended to relieve. Each evening the eyelids must be thoroughly bathed with warm water, until the crusts can be removed without tearing out the eyelashes. Having cleansed the lids from all secretions, they must be

carefully dried with a soft linen cloth. Then the edges of the lids are to be carefully anointed with a small scrap of the ointment (a piece the size of two pins' heads). The following morning any superfluous salve may be gently wiped away with a dry cloth.

One other symptom of a *strained eye*, is the "stye" or abscess of the meibonian follicle, and unless "Job's comforters" be generally outcropping corporeally, the sight should be carefully tested. Furuncles of the lids are to be treated the same as when found on other parts of the body, but must not be taken for styes. Neglected styes are the constant source of *tumors of the eyelids*, and no such abscesses of a gland should be allowed to slowly subside into a deformity, when by free incision, or by hot applications, they can be evacuated spontaneously.

Obstructions of the tear-duct are generally caused by irritation, and the extension of inflammation from nasal disease, or by exposure. Most obstructions are at the mouth of the tear duct (punctum), and seldom require more than the slitting of the canal. Obstructions caused by nasal disease have their origin in the nasal end of the duct, and are usually accompanied by blennorrhœa of the lachrymal sac. Such cases call for more than ordinary treatment, which to be of avail must be started in the nose. The secret of the successful treatment of inflammation of the tear sac and multiple stricture of the duct, is free slitting of the canal, and division of the mouth of the sac down through the bony foramen. In the majority of cases, astringent collyria (such as sulphate of zinc, 4 grains to 6 drachms of water), and thorough inunction of the nose (inside and out) usually effects a cure. More harm than good comes of the use of most forms of probes. Small probes are dangerous, as they make false passages; but where there is a decided stricture, free division, as we have advised, and large probes, make radical cures.

For the *removal of foreign bodies* from the cornea, we are blessed in the possession of "muriate of cocaine." With a two per cent. solution of cocaine, we can anæsthetize the eye and remove a deeply imbedded foreign body from the most sensitive cornea, without being obliged, as was formerly the case, to have to resort to the speculum to hold the lids, the fixation forceps to hold the eye, and an assistant to hold the patient.

Concerning *squint or cross-eye*, much may be recommended as of practical worth, and laurels are likewise to be won in the *non-opera-*

tive or atropine treatment of young children. A few anatomical points must be recognized at the outset.

1. NOTE: A pair of flattened eyes with a tendency to converge and set in the head more or less close together—suspect *far-sightedness*.

2. Given a pair of prominent, bulging eyes, widely separated, with a tendency to diverge—suspect *near-sightedness*.

3. One eye alone, or both eyes alternately, or it may be at *the same time*, apparently attempting to hide behind the nose, means *convergent squint*, usually with far-sightedness, or far-sighted astigmatism, as a cause of defective sight.

4. One eye or perhaps both eyes at the same time wandering to the outer angle of the lids towards the temples, means *divergent squint*, usually with near-sightedness or near-sighted astigmatism, as a cause of defective sight.

Of course there are exceptions to every rule. According to Stilling (Arch. f. Augenhk. Vol. xv., p. 73), “strabismus consists in relinquishing binocular fixation, and placing one eye in its natural position of equilibrium. If this is convergence, convergent strabismus results; if divergence, divergent strabismus; if it is a parallel position of the axes, an absolute strabismus cannot result. In the majority of cases of hypermetropia, convergence in the position of equilibrium; in myopia, divergence.

The family physician is often called upon for an opinion concerning the nature of a *squint suddenly noticed* in some little one, but he is usually at a loss how to advise or account for the deformity. It will be noticed in making the squinting child turn its eyes to one side or the other, that one eye will be possessed of more power to move in extreme excursions than the other. The eye possessing the greatest motility is usually the squinting (non-used) eye. In order to compel service in the non-used eye, we usually dilate the pupil of the better eye, using for the purpose a four-grain solution of atropia, (one drop every three to five days.) Care should be taken at first after throwing all the work on the squinting eye, and, as it were, robbing the child of the sight of its good eye, that enough vision is secured to answer all ordinary purposes. We have by this method, generally practiced upon children between the ages of six months and four years, often been able to secure binocular vision and cure the squint, and in cases where the sight has been very poor in one eye,

been able to convert the squint into the "alternating form," which variety is the most successfully operated.

If a child has been neglected up to its seventh or eighth year, and the squint is a decided one, there is nothing left but to operate. *The success of all squint operations* depends upon the amount of sight retained by the squinting eye or eyes. If the squint be an alternating one, we may expect success and binocular vision. Concerning other cases of convergent or divergent squint, success will be in accordance with the amount of vision which can be obtained from either eye, be the vision natural or acquired by the use of glasses. When there is no useful sight in the squinting eye, as is frequently the case, we operate simply for cosmetic effect, and must be satisfied with limited success. No other anæsthetic than cocaine is necessary in the case of adults or larger children, and this is a great comfort to the operator, as he can avail himself of the assistance the patient can render by moving the eyes as directed.

It is all important that patients should thoroughly understand the ultimate results sought, when advising or operating for squint. At times only does such an operation improve the vision; generally it does not, but on the contrary impairs it for a greater or less length of time. When the squinting, non-used eye is called into use, and its indistinct image is fused with the distinct image of the fellow eye, it causes blurred, and often at the same time, decidedly painful vision. This unfortunate condition is known as muscular asthenopia.

Muscular asthenopia causes one of two conditions: impaired vision, painful vision, or both. The pain caused by this sort of strain is one of the same sort as that which we feel in the muscles of the arm and shoulder after carrying a heavy load. The muscles involved are the ciliary (of the pupil), and the motor muscles (of the globe).

Headaches in school children, generally frontal, although they may be referred to the occiput, are usually caused by defective sight, but rarely by diseased eyes.

Acute disease of the interior of the eye is rarely noticed in children until there is actual loss of sight, and irreparable damage. The onset is insidious, as there are necessarily no external symptoms. Children are more observant than people generally suppose, and we should not fail to give ear to their oft-times significant remarks. Clouds and motes with corruscation, flashes of light, and kaleido-

scopic displays of rainbow colors, suggest retinal or choroidal irritation, and mean danger, as does the red signal light to the railroad man.

Photophobia, or dread of the light, without *accompanying conjunctival or corneal irritation*, means retinal irritation, and calls for prompt investigation and treatment.

Photophobia with conjunctival or corneal irritation on the other hand, is an ordinary symptom which can be readily accounted for and locally treated, and this brings us to the consideration of *phlyctenular ophthalmia*, which next to the purulent form is the most annoying, harassing, and dangerous variety of the diseases of the eye to which children are subject. We will digress and attempt to paint a picture to be frequently seen in the office of the family physician.

Fancy a baby between the ages of six months and three years carried into your office. The child is either screaming or has its face tightly pressed against its mother's shoulder, one little hand frantically clutches her dress, while the other with equal force clutches a pretzel, a stick of candy, or a piece of unripe fruit. Seating herself with a sigh, the weary mother forcibly drags the screaming child from its shelter, and endeavors to turn its face towards you. The face picture is typical; the eyes are closed spasmodically tight by the swollen eyelids, and scalding tears run down over the cheeks, because the swollen nose cannot provide for the overflow, while most significant of all is the swollen *upper lip*, which looks as if recently stung by some insect.

The mother's complaint is, "Doctor, I cannot get anything done about my house; this child takes my entire time. When I am not nursing it, it is either screaming or sleeping with its face buried in the pillow. I am compelled to keep the room dark, and am quite unable to please or manage the child." Casual questioning elicits the following routine history, which goes to prove that we would not be much out of the way in terming this condition *reflex gastric ophthalmia*. The digestion is always disordered, and the appetite capricious; the child is given both tea and coffee, and very little milk, if any; sweet things *ad libitum*, roast meats, boiled potatoes, pie, and a long list of indigestible food.

The child always sleeps on its face, and the only time either it or its mother seems able to secure any rest is from sundown till bedtime. As a rule such children, to use the inelegant but expressive phrase,

are "bosses of the situation," that is, "spoiled." They sleep upon their faces, buried in the pillows, which act as a warm poultice, and encourage congestion and swelling.

Treatment in this disease depends upon the care and patient pains the doctor is willing to bestow, the faith of the mother, and the firmness she proposes to exercise in the execution of the doctor's orders. It is essential that the child should be fed regularly upon simple food, such as milk, broth, soft boiled eggs, and rare meat (starchy foods are to be avoided); sweets of all sorts, as well as tea and coffee are to be tabooed. The apartments must be kept dark, and the child whipped, if necessary, to make it lie on its back. This plan of treatment once thoroughly tested, and half the fight is over.

Locally the "yellow salve" is to be rubbed on the edges of the eyelids at bedtime (oxide of zinc ointment may be used for the excoriated nostrils and face). Solutions of atropia (grains one to four to the ounce), may from time to time be dropped into the eye, according to the age of the child, and also depending upon the amount of lachrymation; so also solutions of a two per cent. solution of cocaine, or we may employ a salve made of vaseline, cocaine and atropine in combination.

Constitutionally we never fail to prescribe the following mixture to be taken at bedtime, with an occasional dose of calcined magnesia, because of the especial inactivity of the liver in all such cases:

Powdered blue mass 10 to 30 grains.

Syrup of rhubarb 1 to 2 ounces.

S.—Shake well and give a teaspoonful or more at bedtime.

After this has been used for a week or two, we order five drops or more of the syrup of iodide of iron, three times a day, never forgetting to prescribe bromide of potassium and syrup of lettuce (Aubergier's), or some equally good sedative mixture.

In very young children *during dentition*, or where flatulence and constipation are persistent and annoying symptoms, we cannot laud too highly the old *Mistura foetida comp.* (Dewees' carminative).

We have described the appearance of the child, taken for granted the condition of the eyes behind the firmly closed lids, suggested treatment, and given explicit directions, but purposely have said nothing until now as to how we should make an intelligent inspection of the eyes proper, *i. e.* conjunctiva and cornea. You will find

that after a mother has been compelled to assist you in holding her child, whilst you force the eyelids open, she will as a rule be so thoroughly demoralized, that in her anxiety to pacify it and get out of your office, she will be quite sure to forget all that you have told her. For this reason a few directions as to the method of holding such children so as to examine and treat their eyes under circumstances such as we have just mentioned, will not be out of place. The trick is well worth knowing, as a good sized unruly child, with a weak mother and inexperienced doctor, where the eyes are to be forcibly examined and then treated, is a veritable "bull in a china shop." The person holding the child is to sit directly opposite the physician, their knees touching, the child is to be laid upon its back, its body resting on the assistant's knees, both of its feet are turned to one side and tucked under the assistant's right arm. This leaves the assistant's hands free to hold those of the child. To protect the doctor's knees a heavy towel is spread over them, and upon this the patient's head rests. In extreme cases the patient's head may be pushed down and held firmly between the doctor's knees. His hands are then free so that he may commence by instilling cocaine solution (rarely satisfactory), and with thumb and finger, or with any good lid-retractor, he can forcibly open the eyelids and expose the globe. In the disease under consideration we will find a pustule on the conjunctiva or the cornea, or it may be on both, or the cornea pustule may have developed into an ulcer. The pupil is always contracted, and it is needless to say that photophobia is marked and lachrymation profuse. In either condition the treatment is as we have suggested, excepting one other reliable hygienic point, which we have thus far neglected to notice. The morning sponge bath is a most valuable addition, and still better is the therapeutic shock to be obtained by the alternate sponging with hot and cold water. In the case of larger children, frequent dippings of the face in a basin of cold water will assist materially in controlling the spasm of the eyelids.

This disease is essentially one which occurs in summer, and when as it generally does, it accompanies dentition, or gastric or intestinal disease, is greatly to be dreaded.

The only disease of the eye for which this form might be mistaken is what is known as *scrofulous ophthalmia*. This subtle inflammation commences with what appears like a pink nodule or phlyctenule

on the conjunctiva, and might readily be mistaken for the disease we have just described. Close inspection will show that the red spot on the conjunctiva is not a pustule, but a glandular swelling, accompanied by little or no conjunctivitis, photophobia, or lachrymation. In the majority of cases, as a guide to diagnosis, we have the scrofulous physiognomy, *i. e.*, flat sunken nose, and notched teeth. Should this red spot have been in existence for some time, there will be shading from it a cloudy patch of more or less density caused by infiltration between the layers of the cornea. This disease may or may not be accompanied by iritis, which in every instance is plastic. One characteristic point and never absent symptom, is the peculiar red coppery appearance of the inflamed conjunctiva at the limbus, between the cloudy spot and the inflamed gland. Arlt called this lymphatic inflammation of the cornea, or scrofulous keratitis, and as a cause always insisted upon inherited specific disease. We feel satisfied, however, that this form of eye disease is seen in tubercular subjects as well. It usually occurs between the ages of eight and thirty-five, more frequently at the age of puberty. In any case, no matter what be its origin, there is but one form of treatment which in our hands has proven almost a specific. We have adopted the German method, and in prescribing always commence with the mercury, which we *gradually* push to salivation, and then follow with iodide of potassium *gradually* repeated for emphasis, creeping up from five to sixty grains three times a day. In some cases, for children between the ages of eight and twelve, we have administered as much as one-sixteenth of a grain of the biniodide of mercury every hour for from one to twelve months, and at the same time used inunctions of blue ointment twice daily, without being able to notice the slightest constitutional effect. Nevertheless we feel fully satisfied that these peculiar cases not only do well, but thrive upon a well-managed course of mercurial treatment. As a precaution we always see that parents or guardians understand cases such as we have described, as they will require months, yea, even years, of prolonged and tedious treatment, and incessant looking after. We have not entered into more detail, because it is our intention to read a paper upon this particular subject at some future meeting of the State Medical Society.

Opacities of the cornea, the "cataracts" of the laity, if unaccompanied by conjunctival irritation, must be looked upon as we do

scars upon the body, and are in a general way incurable. They may not be discernible save by oblique illumination, but all cause badly impaired vision, and strabismus or squint. If they should be the cause of poor sight in a hyperopic eye, the squint will likely be a convergent one, and vice versa. They cause dread of strong light, and are oftentimes a source of annoying and constant pain; and therefore in treating corneal disease do not be satisfied when all redness leaves the eye, but when the opaque spot remains on the cornea, continue your active treatment until nature fills up a clear cornea and removes the cicatrix.

Concerning *cataract* operations much may be said pro and con. Every operator is an advocate of his own method, or it may be of his modification of somebody else's method. Suffice to say, that the percentage of success, in a general way, is so great that we are fully justified in assuring our cataract patients of having eight chances in ten of success. The more unruly or complicated cases are now operated on in a conservative manner. A preliminary iridectomy is made, and in two or three weeks later the cataractous lens is extracted, and by this means the operation is robbed of most of its dangerous elements. (On the other hand, in uncomplicated cases, the more heroic and skillful operators do not interfere with the iris, *i. e.*, make no iridectomy, but remove the lens through the dilated pupil, being bold enough before commencing the operation to wash the eye and its tutamina with soap and water, and by way of *antisepsis* inject an antiseptic solution into the eye,

In operating for cataract, we must be particularly careful where solutions of cocaine are used, as a local anæsthetic, and not expect to do more than render the conjunctiva and cornea anæsthetic. If we use enough of a two per cent. solution of cocaine to affect the iris, there is risk of having the corneal flap shrivel, and we have concluded that unless an operator be satisfied with anæsthesia of the conjunctiva and cornea, he must frequently sacrifice an eye. We seldom bandage an eye after cataract operation now, preferring to use adhesive plaster (as first suggested by Dr. R. J. Levis) cut into half ovals to fit the upper lid.

Cataracts are artificially ripened by massage, when for several reasons we do not wish to wait for nature, and a puncture of the lens or a preliminary iridectomy is often made for the same reasons.

In examining the eyes of those past middle life, a two per cent.

solution of cocaine is the safest and therefore the best mydriatic, because of its evanescent character, and its tendency to reduce intra-ocular pressure. In our private as well as clinical practice, we use cocaine in two per cent. solution, for all preliminary examinations, never using any other mydriatic, except when we wish to paralyze the accommodation. Solutions of atropine are too heedlessly used and the number of cases of atropine glaucoma are steadily increasing, as can be found out by looking up the literature of the subject.

For *glaucoma* we have a potent local remedy in the form of "eserine" (the alkaloid of the extract of calabar bean), which may be instilled in solutions of varying strength ($\frac{1}{8}$ to ij grains to i f.℥), and by this means an eye may either be cured or at least kept under control until the surgeon is able to operate (make an iridectomy), paracentesis of the anterior chamber, etc. In fact numbers of cases have been entirely cured by the instillation of this drug alone.

In *detachment of the retina* occurring in myopic eyes, we have had most gratifying success by treating the condition as if it were a traumatic sub-retinal effusion due to other causes than myopia, and employing a full specific course with absolute rest. We commend hydrarg. pushed to poisonous effects both by pill and by inunction, to be followed by iodide of potassium, not forgetting to recognize the like effect of jaborandi (internally) or pilocarpin (hypodermically).

In the selection of *spectacle frames*—note we did not say spectacles—opticians are universally careless, and those who prescribe glasses are culpably negligent. If the spectacles are intended for reading or *near work*, the bridge piece is often made *shallow*, so that in casting the eyes down the lower edge of the lens is in the way, and seeing *over* the top of the glasses is an impossibility. If the spectacles are for *near work*, they should have a *deep bridge-piece*, which will enable the wearer to drop the eye (as for reading, etc.), and have it strike the center of the glass, and the next moment, without moving the head, be able to look over the glass, and in the distance. If on the other hand the glasses be for distance, they should have a *shallow bridge-piece*, and be set well up in front of the eyes, so that the wearer cannot do otherwise than look through them for the distance, and under them in front when walking, etc. Where double lenses are used, the upper half for distance and the lower half for near, their manufacture must in every case be intrusted to the care of a skilled optician. Each half glass must be ground from

a whole lens to secure a proper optical centre. One half of the lens will not do. The great want of care displayed in the manufacture of this form of glass has been the cause of bringing it into disfavor.

Protective glasses are best made of number four "London smoke" glass. Too light a shade does not offer protection enough, while on the other hand too dark a shade causes too severe and sudden transition from dark to light. Oculists for many reasons prefer the smoked, that is dark glass, and so, if left to themselves, do the majority of persons. Take for instance one hundred purchasers of protective glasses, as they select them from the vendor on the sunny sea shore, and ninety of them will select the dark or "London smoke." Green at one time, copying after Nature, was the fashionable color; afterwards everything was "blue glass;" but experience has selected the smoked.

We want to refer to another sort of protective glass, *i. e.* those worn to keep foreign bodies from damaging the eyes. For this purpose glass and mica as well as wire-gauze have been used, especially in the older countries, but we are sorry to say our mechanics do not seem to know how, or to want to take care of themselves. In this country of profligate waste of money and life, we are in the course of a year compelled to enucleate too many damaged eyes which might have been saved by protective glasses.

In a general way we would advise near-sighted people to wear eye-glasses; far-sighted people should wear spectacles; those who must wear glasses constantly, or who have astigmatic eyes, in every case ought to wear spectacles. Cylindrical glasses should always have the direction of the axis marked by a scratch on the edge of the glass.

We would have much more to say but time forbids our narrating many wonderful, valuable and interesting novelties which we had prepared as an addition to this paper.

1719 Chestnut Street.

